

## WHAT IS CLAIMED IS:

1. A method of mounting a semiconductor laser component having a light emitting portion on a submount through a bonding member, the method comprising steps of:

5        setting the submount having a bonding member at a mount surface thereof on a heating table;

         heating the submount to bring the bonding member up to a temperature more than a melting point thereof;

         positioning the semiconductor laser component on the  
10       mount surface of the submount, by a collet means,;

         pressure-bonding the semiconductor laser component on the mount surface of the submount by the collet means; and

         heating again the submount on the heating table without pressure by the collet after the bonding member is completely  
15       coagulated.

2. A method of mounting a semiconductor laser component on a submount through a bonding member according to claim 1, wherein the bonding member is heated up to a melting point of the bonding member.

20       3. A method of mounting a semiconductor laser component on a submount through a bonding member according to claim 1, wherein a plurality of laser elements bonded to the submounts are heated again together.

         4. A method of mounting a semiconductor laser  
25       component on a submount through a bonding member according to claim 1, wherein a method of the first heating is different

from that of the second heating.

5. A method of mounting a semiconductor laser component on a submount through a bonding member according to claim 1, wherein the second heating is carried out by at least one selected from the group consisting of hot-air heating, ohmic-resistance heating, and high-frequency heating.

6. A method of mounting a semiconductor laser component on a submount through a bonding member according to claim 1, wherein the bonding member is a Pb-free solder member.

7. A method of mounting a semiconductor laser component on a submount through a bonding member according to claim 1, wherein the semiconductor laser component is a GaN, GaAs or AlInGaP system semiconductor element, and the submount is made of Si or SiC.

8. A semiconductor laser device having a semiconductor laser component mounted on a circuit board through a submount, wherein the semiconductor laser component is mounted on the bonding surface of the submount through a bonding member by pressure bonding without a residual stress due to the pressure bonding the semiconductor laser device on the submount.

9. A semiconductor laser device having a semiconductor laser component mounted on a circuit board through a submount according to claim 8, wherein the submount is provided with an Au coating at the bonding surface thereof.

10. A semiconductor laser device having a semiconductor laser component mounted on a circuit board through a submount according to claim 8, wherein the laser component is pressure bonded on the submount by a Pb-free bonding member.

5        11. A semiconductor laser device having a semiconductor laser component mounted on a circuit board through a submount according to claim 8, wherein the bonding member is a solder member selected from the group consisting of Au-Sn, Sn-Ag-Bi-In, Sn-Zn-Bi and Sn-Bi-Ag.

10        12. A semiconductor laser device having a semiconductor laser component on a circuit board through a submont according to claim 10, wherein the solder member is pressure bonded up to about 1 to 1.5  $\mu\text{m}$